

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claims 1-25 (canceled)

Claim 26 (currently amended) A device ~~(5)~~ for the heating of a liquid in a beverage machine comprising:

a tube ~~(24)~~ or flat base ~~(30)~~ arranged so that liquid can traverse the tube or flat base for being heated;

a first individual resistor ~~(R1)~~ placed on a portion of the tube ~~(24)~~ or flat base ~~(30)~~ to heat liquid at a first temperature; and

a set of at least two resistors ~~(R2, R3)~~ is placed on a portion of the tube or flat base to heat the liquid from said first temperature to a final desired temperature, wherein said set of at least two resistors ~~(R2, R3)~~ is electrically linked together so that one resistor ~~(R2)~~ can be empowered either individually or in serial mounting with one or more of the resistors ~~(R3)~~ of the same set, and wherein the first individual resistor ~~(R1)~~ can be empowered either individually or in parallel mounting with one resistor ~~(R2)~~ of said set of resistors or in parallel mounting with a serial mounting of said set of resistors ~~(R2, R3)~~.

Claim 27 (currently amended) A device according to claim 26, wherein the system of resistors is disposed on a tube ~~(24)~~, the liquid flowing in said tube.

Claim 28 (currently amended) A device according to claim 27, wherein the device ~~(5)~~ comprises a cylindrical insert ~~(23)~~ that is disposed inside the tube ~~(24)~~ along the tube's entire length and substantially along the tube's axis of symmetry.

Claim 29 (currently amended) A device according to claim 27, wherein the insert ~~(23)~~ comprises helicoidal grooves ~~(25)~~ on the insert's outside surface.

Claim 30 (currently amended) A device according to claim 27, wherein a spring is disposed around the insert ~~(23)~~.

Claim 31 (currently amended) A device according to claim 27, wherein the ratio of the length to the diameter of the tube ~~(24)~~ is between about 5 and about 40.

Claim 32 (currently amended) A device according to claim 28, wherein the insert ~~(23)~~ is an insulated material selected from the group consisting of plastic, metal, ceramic and combinations thereof.

Claim 33 (currently amended) A device according to claim 28, wherein the insert ~~(23)~~ is fixed or can be rotated along the insert's axis of symmetry.

Claim 34 (currently amended) A device according to claim 28, wherein the insert ~~(23)~~ is rotated because of the insert's connection with a rotating wheel of a flowmeter disposed at the lower part of said insert.

Claim 35 (currently amended) A device according to claim 34, wherein the rotatable cylindrical insert ~~(23)~~ comprises a wire brush.

Claim 36 (currently amended) A device according to claim 26, wherein the system of resistors ~~(R1, R2, R3)~~ is disposed on a flat base ~~(30)~~, wherein liquid flows through channels ~~(33)~~ that are positioned along the resistor tracks.

Claim 37 (currently amended) A device according to claim 36, wherein the channels ~~(33)~~ for the flowing of the liquid have a reduced section area so that the liquid flow reaches a turbulent flow.

Claim 38 (previously presented) A device according to claim 26, wherein the different electrical resistors are in a form selected from the group consisting of wires resistors, thick-film resistors and combinations thereof.

Claim 39 (previously presented) A device according to claim 26, wherein all the electrical resistors have a power density of up to 15 to 70 Watt/cm².

Claim 40 (previously presented) A device according to claim 27, wherein the hollow tube ~~(24)~~ comprises enamel painting on the hollow tube's outside under the resistors.

Claim 41 (previously presented) A device according to claim 26, wherein the electrical resistors are covered or insulated with an electrically non-conductive material.

Claim 42 (currently amended) An apparatus for the heating of a liquid comprising:
a liquid supply;
a device according to claim ~~1~~ 26 for heating the liquid;
a pump for supplying said liquid to the device, wherein said liquid flows from the water supply through a tube or channels in said apparatus; and

a way for the exit of heated liquid, either on a substance to be extracted or in a mixer to mix said heated liquid with a powder.

Claim 43 (previously presented) A process for heating the system according to claim 42, wherein the electricity power in resistors and/or set of resistors is controlled so as to provide to the liquid the required energy in real-time to reach the liquid target temperature according to the energy balance.

Claim 44 (previously presented) A process according to claim 43, wherein the flow-rate is between 50 and 300 ml/min for a coffee machine and between 300 and 5000 ml/min for a vending machine.